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BEFORE THE ARIZONA CORPORATION COMMISSION

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IN THE MATTER OF THE APPLICATION OF) DOCKET NO. E-01787A-01-0063
NAVOPACHE ELECTRIC COOPERATIVE, INC.)
AN ARIZONA NON-PROFIT CORPORATION)
FOR A FINDING OF FAIR VALUE OF ITS)
PROPERTIES AND A FAIR RETURN)
THEREON, AND FOR APPROVAL OF RATES)
CHARGES, AND FOR APPROVAL OF)
CHANGES TO ITS POLICY MANUAL)

Arizona Corporation Commission

DOCKETED

AUG 15 2001

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At

DIRECT TESTIMONY OF STEVEN W. RUBACK
ON BEHALF OF INTERVENOR
WHITE MOUNTAIN APACHE TRIBE

Intervenor, White Mountain Apache Tribe, hereby submits this direct testimony and associated exhibits of Steven W. Ruback, The Columbia Group, 785 Washington Street, Canton, MA 02021.

The White Mountain Apache Tribe's request to intervene was granted by the Arizona Corporation Commission on March 9th, 2001.

Respectfully submitted this 15th day of August, 2001.

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PROOF OF SERVICE AND CERTIFICATE OF MAILING

I hereby certify that on this the 15th day of August, 2001, an original and ten (10) copies of the foregoing document have been delivered by hand to:

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Arizona Corporation Commission
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With copies of the foregoing hand delivered/mailed this 15th day of August, 2001 to:

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TESTIMONY OF STEVEN W. RUBACK

The Columbia Group
785 Washington Street
Canton, MA 02021

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1 Q. Please state your name and address

2 A. My name is Steven W. Ruback, and my business address is 785 Washington
3 Street, Canton, Massachusetts.
4

5 Q. What is your occupation?

6 A. I am a principal of The Columbia Group, Inc., which is a public interest
7 consulting firm specializing in public utility issues on behalf of state and local
8 government agencies, municipal utilities and public utility commissions. My
9 practice consists of providing gas and electric expert testimony, rate negotiations,
10 rate studies and other rate related services.
11

12 Q. Please state your qualifications.

13 A. I am a lawyer and engineer who has worked as a rate consultant to state and local
14 governments, municipal utilities and public utility commissions for the past 20
15 years. My principal areas of concentration have been the natural gas and electric
16 utility industry.
17

18 I have provided expert testimony in electric and natural gas cases before many
19 regulatory commissions throughout the country. In total, I have undertaken more
20 than 350 utility-related assignments and testified in over 150 proceedings. My
21 principal areas of concentration have been electric and natural gas restructuring,
22 cost of service, rate design, rate unbundling, regulatory policy, and supply issues.
23

1 I was New Hampshire's first Consumer Advocate for the Legislative Utility
2 Consumers' Counsel and litigated numerous gas cases before this Commission.
3 In 1978 I joined the National Consumer Law Center representing low-income
4 consumers in utility matters. Thereafter, I joined R.W. Beck and Associates, an
5 engineering consulting firm specializing in public utility issues and became the
6 manager of the Wellesley, Massachusetts' office of Rates and Regulatory Affairs.
7 In April 1981 I founded the predecessor of The Columbia Group, Inc.

8
9 I have in testified in numerous proceedings before the Connecticut Department of
10 Public Utility Control. I have participated in many electric and gas rate design,
11 class allocated cost of service and other issues in Connecticut involving United
12 Illuminating Company and Connecticut Light and Power Company, Connecticut
13 Natural Gas Corporation, Yankee Gas Services, Inc. and Southern Connecticut
14 Gas Company.

15
16 I have also provided cost of service rate design services to the Virginia Municipal
17 League, the Virginia Association of Counties and the Northern Virginia County
18 Customer Group in connection with their contracts with Virginia Power,
19 Appalachian Power and the Northern Virginia Electric Cooperative for general
20 municipal use, including miscellaneous light and power, water pumping and
21 sewage disposal, schools and street lighting. At this time I have received an
22 assignment from the Georgia Consumers' Utility Counsel in connection with the
23 rate design portion of Georgia Power's recently filed base rate case.

1 In Kansas, I have testified in several rate design proceedings including Kansas
2 Gas Service Cooperative's request for a Residential Basic Service Charge to
3 implement a Straight-Fixed-Variable rate design for distribution services and their
4 proposal to recover upstream capacity charges via a fixed demand charge for
5 some retail customers.

6
7 For several years I was a consultant to the City of Richmond's 80,000-customer
8 gas utility. During that time, I conducted numerous rate design analyses,
9 unbundled sales rates for large customers and conducted numerous cost of service
10 studies.

11
12 A complete list of my testimonies is attached to this testimony as Attachment A.

13
14 I graduated Clarkson College of Technology in 1968 with a degree in
15 Interdisciplinary Engineering & Management and the State University of New
16 York at Buffalo, School of Law, in 1973. I have not, however, practiced law
17 since 1976, and my current work consists solely of providing utility consulting
18 services to municipal utilities and state and local agencies.

19
20 I am also a frequent speaker at industry meetings. I have addressed the American
21 Public Gas Association, the National Association of Consumer Advocates, The
22 Missouri Gas Round Table and a Utility Rate Symposium conducted by several
23 Midwestern Universities.

1

2 Q. What is the purpose of your testimony?

3 A. I was asked by the White Mountain Apache Tribe (WMAT) to review the
4 proposed Residential and Residential Off-Peak customer charges filed by
5 Navopache Electric Cooperative, Inc. (Navopache) in Docket No. E-01787A-01-
6 0063 which was filed on January 19, 2001, and, if appropriate, to provide
7 comments and alternative rate design recommendations.

8

9 Q. Do you have any objections to the Navopache's proposed rate design?

10 A. Yes, I do. In my judgment Navopache has proposed sharp increases in the
11 Residential and Residential Off-Peak customer charges, which are not justified by
12 commonly accepted rate design criteria. Navopache's proposal is controversial,
13 lacks public acceptability, represents front-end loading, impacts smaller
14 customers more than larger customers and suffers from numerous other
15 deficiencies.

16

17 Q. What is the Cooperative's customer charge proposal?

18 A. The Company has proposed significantly large percentage increases for the
19 Residential and Residential Off-Peak customer charges. Navopache has proposed
20 to increase the Residential customer charge from \$11.25 per month to \$18.75 per
21 month. This proposed increase will shift an additional \$1,980,930 from
22 volumetric charges to fixed charges. Navopache has proposed to increase the
23 Residential Off-Peak customer charge from \$15.00 per month to \$25.85 per

1 month. This proposed increase will shift an additional \$634,322 from volumetric
2 charges to fixed charges. Accordingly, the combined shift of revenue recovery
3 from volumetric to fixed charges is \$2,615,252.

4
5 The difference between the Residential and Residential Off-Peak customer charge
6 is largely attributable to the more sophisticated meter required by Residential Off-
7 Peak customers. These proposals, on this very controversial part of the rate
8 design, should be rejected because it is poor regulatory policy and suffers from
9 numerous deficiencies.

10
11 Q. Would you please explain why the proposed increases in customer charges are
12 poor ratemaking policy?

13 A. Yes, I will. First, such a large customer charge increase represents "front-end"
14 loading. The proposed increase in the revenue attributable to the proposed
15 Residential customer charges is \$1,980,930 or 66.7%. The proposed increase in
16 the revenue attributable to the proposed Residential Off-Peak customer charges is
17 \$634,322 or 72.3%.

18
19 This increase in customer charge revenues is poor ratemaking policy in part
20 because there is an insignificant increase in total system revenues from present to
21 proposed rates of \$124, 925 or .43% without the Public Service Company of New
22 Mexico (PNM) purchased power reduction or 12.75% with the PNM reduction
23 included in the test year.

1

2 Q. Why is front-end loading poor regulatory policy?

3 A. The reason "front-end loading" is poor ratemaking is that more revenue is
4 virtually guaranteed. Ratemaking should provide a utility with the *opportunity* to
5 recover prudent costs, not a guarantee. Navopache's proposal is a blatant attempt
6 to shift more of the recovery of their revenue requirement into fixed customer
7 charges to reduce the potential under-recovery of fixed costs regardless of the
8 amount of kilowatt-hours sold on their system.

9

10 Q. Are there any other problems?

11 A. Yes, a high customer fee necessarily requires that the volumetric rates be reduced
12 to avoid an over-recovery of the class revenue requirements. A high customer
13 charge creates a disincentive on the part of the utility to minimize distribution
14 costs because a larger portion of its revenue requirement is recovered independent
15 of kilowatt-hours sold. Also, if volumetric charges are reduced, a price signal will
16 be sent which discourages conservation and encourages wasteful consumption.

17

18 Q. Please continue.

19 A. A high customer charge impacts smaller usage customers more than larger
20 customers. These customers may have small usage because they are conserving,
21 have smaller homes or simply lack the money obtain and use more non-essential
22 energy consuming devices. Large customers enjoy an offsetting feature in the

1 rate design, lower kilowatt-hour rates, which small usage customers do not have
2 as an offset to the higher customer charges.

3
4 Q. Is there any regulatory requirement that the customer fee recover customer costs?

5 A. No. There is no regulatory requirement that the customer charge recover a
6 specific level of customer costs. All commissions with jurisdiction over retail
7 rates, of which I am aware, **routinely** set customer charges below customer costs.
8 The difference between the customer costs, however calculated, is not lost to the
9 utility. Rather, the shortfall in customer related revenue and costs is traditionally
10 included in the kilowatt-hour charges.

11
12 In my judgment, the *ceiling* for a Customer charge should only include the direct
13 costs attributable to billing, collection, meters, and services. Such costs vary
14 directly with the addition or deletion of a single customer to the system.

15
16 The ***absolute ceiling***, but not the customer charge to be approved and
17 implemented by the Arizona Corporation Commission, should include only the
18 capital costs related to meters, services, and the expenses related to operation and
19 maintenance of meters, services, customer installations, and customer accounting
20 and billing.

21
22 Q. Are customer charges a controversial aspect of a utility's rate design?

1 A. For small customers, the setting of the customer fees is one of the most controver-
2 sial aspects of rate design and is poorly understood by most small customers.
3 Based on my experience, retail Commissions have established a longstanding
4 practice of pricing customer charges below the level of customer costs. The
5 reason for this is public acceptability, which is a valid rate design criteria. For
6 that reason, I recommend that even if the requested revenue increase is allowed
7 that the proposed customer charges be changed.

8
9 Q. Are there any other reasons why you consider customer charges to be poor rate
10 design policy and fundamentally unfair?

11 A. Yes. There are many other reasons why customer charges are fundamentally
12 unfair.

13
14 First of all, customer charges are inelastic.

15
16 The fundamental unfairness of a monthly customer charge can be demonstrated
17 by the practical lack of customer choice or control over the amount of the
18 customer charge. Unlike a kilowatt-hour charge, a customer cannot control the
19 amount of a customer charge by using less electricity on an annual basis. A
20 customer must pay the customer charge whether or not any electricity is used at
21 all and the customer does not have any opportunity whatsoever to control the
22 amount of a customer charges by reducing consumption or the demand a customer
23 imposes on the distribution system.

1
2 Inelasticity is a poor rate design concept to incorporate into a tariff design in an
3 era which promotes, rather than restricts, a customer's opportunity to gain some
4 control over their bills by changing the amount of electricity used.

5
6 Today, rate unbundling is a popular rate design intended to increase customer
7 choice and competition. Rate unbundling allows a customer to chose an alternate
8 power supplier other than the incumbent utility. The goal is, of course, to reduce
9 prices via competition by recognizing that power supply is no longer a
10 monopolistic function. The kilowatt-hour-distribution charges are, however, a
11 monopolistic function because there is a consensus that it is inefficient to
12 construct duplicate distribution facilities.

13
14 There is no similar consensus with respect to the capital and operating costs of
15 meter reading and billing services, which are components of a customer charge.
16 In my judgment, meter reading and billing are not monopolistic functions, and I
17 fail to see why charges for theses services are not subject to competition. It is my
18 understanding that electric customers in Arizona do not have any current choice
19 with respect to the entity that provides meter reading and billing. Until such
20 customer choice arrives, a customer charge is inconsistent with rate unbundling.
21 Electric competition is not, however, a valid concern in this case because it is my
22 understanding that none of the Cooperative's customers are receiving power from
23 any third party.

1
2 Moreover, electricity is required for minimal household usage such as lighting,
3 refrigeration and small appliances. Based upon my understanding, there is no
4 alternative to electricity for these end-uses, which require approximately 400
5 kilowatt-hours a month. Consequently, a customer cannot avoid monthly
6 customer charges by discontinuing electric service.

7
8 Second, a customer charge is anti-competitive. In order for a customer to receive
9 any electric service, the customer must pay the customer charge. This is
10 equivalent to conditioning the receipt of electric service upon payment of a
11 customer charge because the incumbent electric utility has a monopoly over the
12 distribution system. This anti-competitive tie-in is similar to a pipeline
13 conditioning the right to receive firm transportation from the wellhead to the city-
14 gate only if a gas utility purchases its gas from the pipeline. The Federal Energy
15 Regulatory Commission (FERC) found this practice to be anti-competitive and
16 prohibited pipelines from the merchant function since the pipelines control the
17 delivery system. On a retail level the incumbent electric utility as a monopoly
18 over the distribution system and access to the distribution system is conditioned
19 upon payment of a customer charge. In my judgment, this is the same type of tie-
20 in that FERC found to be anti-competitive for gas service.

21
22 Third, a customer charge is an economic disincentive for a utility to keep
23 distribution costs as low as possible. Customer charges are an economic

1 disincentive to keep distribution costs as low as possible because fewer dollars
2 need to be recovered via kilowatt-hour rates. Accordingly, the need to reduce
3 distribution costs in order to maintain or increase consumption via lower
4 volumetric charges is diluted.

5
6 Fourth, utilities are only entitled to an opportunity to earn a fair rate of return.
7 Customer charges guarantee a utility revenue, even if no electricity is used. A
8 customer charge is not consistent with the basic regulatory compact because a
9 utility is guaranteed revenue from a customer charge, but is only entitled to an
10 opportunity to earn a fair rate of return.

11
12 Q. What is your recommendation with respect to customer charges?

13 A. It is my recommendation that the Arizona Corporation Commission reject
14 Navopache's proposal to increase the customer charges for the Residential and
15 Residential Off-Peak customer classes for the reasons provided in my testimony.
16 My recommendation does not change Navopache's proposed Residential and
17 Residential Off-Peak revenue requirement. As is shown in detail in Exhibit
18 SWR-1, my recommendation for the rates for these customer classes is
19 summarized in the tables below:

1

RESIDENTIAL RATE	
Customer Charge	\$13.00
First 400 kWh's	\$0.07707 per kWh
All kWh's over 400 kWh's	\$0.10818 per kWh
PCA	\$0.0 per kWh

2

RESIDENTIAL OFF-PEAK RATE	
Customer Charge	\$17.75
Off-Peak kWh's	\$0.05248 per kWh
On-Peak kWh's	\$0.09701 per kWh
PCA	\$0.0 per kWh

3

4 Q. What are the customer charges of other Arizona and adjacent area electric
5 utilities?

6 A. As found on Exhibit SWR-2, 13 out 16 tariffs examined had customer charges
7 between \$3.00 to \$9.50 and only three had customer charges at \$10.00 or more.

8

9 Q. Are there any other objections you have to Navopache's proposed rate design or
10 policy changes?

11 A. Yes. Navopache is proposing policy changes that increase customer fees for
12 certain services. For example, the reconnect service fee has been increased from
13 \$50.00 to \$70.00; the service reestablishment fee has been elevated from \$70.00
14 to \$90.00. These fees add to the burden of the proposed rate design on the small
15 usage customer.

16

17 Q. Does that conclude your testimony?

18 A. Yes, it does.

Attachment A

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Northern Utilities, Inc.	New Hampshire	DG 00-046	8/18/00	Rate Design	Office of Consumer Advocate
Southern Connecticut Gas Company, Connecticut Natural Gas Corporation, Yankee Gas Services	Connecticut	99-03-28	2/4/00	Cost of Service Study Methodologies	Office of Consumer Counsel
Oklahoma Natural Gas Company	Oklahoma	PUD980000683 PUD980000570 PUD990000166	1/24/00	Cushion Gas	Corporation Commission
Oklahoma Natural Gas Company	Oklahoma	PUD980000683 PUD980000570 PUD990000166	2/1/00	Cost of Service and Rate Design	Corporation Commission
Connecticut Natural Gas Corporation	Connecticut	99-09-03	1/2000	Rate Increase	Office of Consumer Counsel
United Cities Gas Company	Georgia	10939-U	11/5/99	1999/2000 Gas Supply Plan	Consumers' Utility Counsel Division
Southern Connecticut Gas Company	Connecticut	99-04-18	9/99	Rates and Charges	Office of Consumer Counsel
United Cities Gas Company	Georgia	10939-U	8/24/99	1999/2000 Gas Supply Plan	Consumers' Utility Counsel Division
United Illuminating Company	Connecticut	99-03-35	7/2/99	Standard Offer	Office of Consumer Counsel
Connecticut Light & Power Company	Connecticut	99-03-36	7/7/99	Standard Offer	Office of Consumer Counsel
Western Resources, Inc. and Kansas City Power & Light Company	Kansas	98-WSRE-676- MER	2/18/99	Market Power	Citizens' Utility Ratepayer Board
Western Resources, Inc. and Kansas City Power & Light Company	Kansas	98-WSRE-676- MER	2/99	Rate Design	Citizens' Utility Ratepayer Board
Kansas Gas Service Company, a Division of Oneok, Inc.	Kansas	98-KGSG-822- TAR	11/98	Gas Unbundling	Citizens' Utility Ratepayer Board
Residential Electric, Incorporated	New Mexico	2867 & 2868	11/9/98	Electric Retail Competition	Office of Attorney General
United Cities Gas Company	Georgia	9306-U	8/24/98	1998-1999 Gas Supply Plan	Consumers' Utility Counsel

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Atlanta Gas Light Company	Georgia	9305-U	8/24/98	1998-99 Gas Supply Plan	Consumers' Utility Counsel
Atlanta Gas Light Company	Georgia	9305-U	8/25/98	Addendum - 1998-99 Gas Supply Plan	Consumers Utility Counsel
Kansas Gas Service Company a Division of Oneok, Inc.	Kansas	98-KGSG-611-TAR	7/31/98	Optional Services	Citizens' Utility Ratepayer Board
Eastern Enterprises/Essex County Gas Company	Massachusetts	D.T.E. 98-27	6/9/98	Performance Based Ratemaking	Local 12086, United Steelworkers of America, AFL-CIO and the Alliance of Utility Workers' Unions
Southern Connecticut Gas Company	Connecticut	97-12-21	5/22/98	Request to Exit Merchant Function	Connecticut Office of Consumer Counsel
Atlanta Gas Light Company	Georgia	8390-U	3/31/98	SFV Rate Design	Consumers' Utility Counsel Division
Western Resources, Inc. Kansas Gas & Electric Company	Kansas	193,306-U;96-KG&E-100-RTS, 193,307-U;96-WSRE-101-DRS	2/98	Rate Design	Citizens' Utility Ratepayer Board
PNM Gas Services	New Mexico	2762	2/98	Class Revenue Allocation, Cost of Service Study, Discounted Rates, Transportation Balancing	New Mexico Attorney General
Western Resources, Inc. ONEOK, Inc.	Kansas	97-WSRG-486-MER	9/97	Line Extensions	Citizens' Utility Ratepayer Board
United Cities Gas Company	Georgia	7711-U	8/97	Gas Supply Plan	Consumers' Utility Counsel Division
DPUC Review of Electric Companies	Connecticut	97-01-15	8/97	Cost of Service and Unbundled Tariffs	Connecticut Office of Consumer Counsel
PNM Gas Services	New Mexico	2760	7/97	Small Customer Transportation	New Mexico Attorney General

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
				Program	
Consumers Pennsylvania Water Company	Pennsylvania	R-00973869	5/97	Competitive Pricing	Pennsylvania Office of Consumer Advocate
T.W. Phillips Gas & Oil Company	Pennsylvania	R-00963812	3/97	Purchased Gas Adjustment Clause Rate Design	Pennsylvania Office of Consumer Advocate
Sierra Pacific Power Company	Nevada	96-6013 96-6014	1/97	Competitive Tariffs Power Supply Contract	Office of Advocate for Customers of Public Utilities
Application of Virginia Power	Virginia	PUE	10/96	Competitive Practices	City of Richmond
United Cities Gas Company	Georgia	6661-U	8/96	Cost of Gas Purchased Gas Adjustment Clause	State of Georgia Consumers Utility Counsel
Chesapeake Utilities Corporation	Delaware	95-73, Phase II	8/96	Cost of Service Rate Design	Office of Public Advocate
Generic PGA Proceedings	Connecticut	96-01-28	6/96	PGA Rate Design	Connecticut Office of Consumer Counsel
PFG Gas and North Penn Gas Company	Pennsylvania	R-00953524	5/96	Cost of Gas	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	R-00963576	5/96	Anti Competitive Practices	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	P-00940886	5/96	Anti Competitive Practices	Pennsylvania Office of Consumer Advocate
Western Resources, Inc.	Kansas	193,306-U 193,307-U	5/96	Rate Design Cost of Service	Citizen's Utility Ratepayers Board
Connecticut American Water Company	Connecticut	95-12-15	3/96	Rate Design Cost of Service	Connecticut Office of

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
					Consumer Advocate
Carnegie Natural Gas Company	Pennsylvania	M-00950697	3/96	Gas Cost Issues Merger Issues	Pennsylvania Office of Consumer Advocate
Western Resources, Inc.	Kansas	193,305-U	1/96	Cost of Service Rate Design	Citizens Utility Ratepayer Board
Public Service Company of New Mexico Gas Services	New Mexico	Case No. 2662	1/96	Cost of Service Rate Design	New Mexico Office of Attorney General
Delmarva Power & Light Company	Delaware	95-137	11/95	Economic Development and Negotiated Rates	Delaware Office of Public Advocate
Yankee Gas Services Company	Connecticut	92-09-19 Reopened	11/17/95	Cost of Service	Connecticut Office of Consumer Counsel
Public Service Company of New Mexico Gas Services	New Mexico	Case No. 2655	11/95	Optional Services	New Mexico Office of Attorney General
Connecticut Natural Gas Company	Connecticut	95-02-07 (Phase II)	9/95	Cost of Service Rate Design	Connecticut Office of Consumer Counsel
Citizens Water Company	Pennsylvania	R-00953300	9/95	Cost of Service Rate Design	Pennsylvania Office of Consumer Advocate
Apollo Gas Company and Carnegie Natural Gas Company	Pennsylvania	R-00953378 R-00953379	8/95	Merger Application	Pennsylvania Office of Consumer Advocate
Philadelphia Suburban Water Company	Pennsylvania	R-00953343	8/95	Cost of Service Rate Design	Pennsylvania Office of Consumer Advocate
Delaware Power & Light Company	Delaware	95-44	8/95	Order 636 Issues	Delaware Office of Consumer Advocate

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
PECO Energy Company	Pennsylvania	R-00953376	7/95	Cost of Gas	Pennsylvania Office of Consumer Advocate
Connecticut Natural Gas Company	Connecticut	95-02-07	7/95	Rate Design	Connecticut Office of Consumer Counsel
Hope Gas Company	West Virginia	95-0003-G-42T	6/95	Cost of Service	WV PSC Consumer Advocate Division
Mountaineer Gas Company	West Virginia	95-0011-G-42T	6/95	Cost of Service	WV PSC Consumer Advocate Division
North Penn Gas Company	Pennsylvania	R-943245	5/95	Cost of Service Rate Design	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	R-953320	5/95	Purchased Gas Costs	Pennsylvania Office of Consumer Advocate
North Shore Gas Company	Illinois	95-0031	4/95	Cost of Service Rate Design	Illinois Citizens Utility Board
The Peoples Gas Light & Coke Co.	Illinois	95-0032	4/95	Cost of Service Rate Design	Illinois Citizens Utility Board
Equitable Gas Company	Pennsylvania	R-00943272	4/95	Transportation Balancing	Pennsylvania Office of Consumer Advocate
T.W. Phillips Gas & Oil Co.	Pennsylvania	R-00943256	3/95	Cost of Gas	Pennsylvania Office of Consumer Advocate
Generic Order 636 Proceeding	Connecticut	94-11-12	3/95	Order 636 Issues/ Cost Allocation Transportation Issues	Connecticut Office of Consumer Counsel
Roaring Creek Water Company	Pennsylvania	R-00943177	1/95	Cost of Service Rate Design	Pennsylvania Office of

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
					Consumer Advocate
Generic Proceeding	Illinois	94-0403	1/95	Purchased Gas Adjustment Charge	Illinois Citizens Utility Board
Gas Company of New Mexico	New Mexico	Case No. 2587	12/94	Cost of Service Gas Prudency	New Mexico Office of Attorney General
Associated Natural Gas Company	Missouri	GR90-106-GR91-208	11/94	Gas Prudency	Missouri Public Service Commission
Empire District Electric Company	Kansas	190,360-U	8/94	Rate Design	Citizens' Utility Ratepayer Board
PECO Energy Company	Pennsylvania	R-00943070	7/94	Gas Supply Order 636	Pennsylvania Office of Consumer Advocate
National Fuel Gas Distribution Corp.	Pennsylvania	R-00942991	6/94	Rate Design	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	R-00943022	5/94	Rate Design	Pennsylvania Office of Consumer Advocate
Bay State Gas Company	Massachusetts	DPU 94-16	3/94	Gas Supply Order 636	Massachusetts Office of Attorney General
Gas Company of New Mexico	New Mexico	Case No. 2508	3/94	Rate Design	New Mexico Office of Attorney General
Boston Gas Company	Massachusetts	DPU 93-212	2/94	Gas Supply Order 636	Massachusetts Office of Attorney General
Commonwealth Gas Company	Massachusetts	DPU 93-222	2/94	Gas Supply Order 636	Massachusetts Office of Attorney General

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Philadelphia Electric Company Gas Division	Pennsylvania	R-00932935	2/94	Rate Design	Pennsylvania Office of Consumer Advocate
UGI Utilities- Electric Division	Pennsylvania	R-00932862	2/94	Rate Design Cost of Service	Pennsylvania Office of Consumer Advocate
Delmarva Power & Light Company	Delaware	93-80F	2/94	Order 636 Rate Design	Delaware Office of Public Advocate
Burlington Electric Department (Municipal Utility)	Vermont	5694	1/94	Rate Design Cost of Service	Burlington Electric Dept. (Municipal Utility)
Mansfield Consortium Essex Gas Company Fitchburg Gas & Electric Colonial Gas Company Berkshire Gas Company	Massachusetts	DPU 93-189 DPU 93-190 DPU 93-188 DPU 93-187	1/94	Order 636 Gas Supply	Massachusetts Office of Attorney General
Allied Gas Company	Pennsylvania	R-00932627	8/93	Order 636 Capacity Release	Pennsylvania Office of Consumer Advocate
Southern CT Gas Company	Connecticut	93-03-09	8/93	Rate Design & Gas Supply	Office of Consumers' Counsel
Pennsylvania Gas & Water Company (Spring Brook)	Pennsylvania	R-00932667	8/93	Rate Design & Cost of Service	Pennsylvania Office of Consumer Advocate
National Fuel Gas Distribution Corp.	Pennsylvania	R-00932548	7/93	Gas Supply Plan- ning; Transition Costs; Capacity Release	Pennsylvania Office of Consumer Advocate
Philadelphia Electric Company Gas Division	Pennsylvania	R-00932669	7/93	Excess Capacity Transition Costs Commodity Costs Balancing	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	R-00932599	5/93	Excess Capacity Transition Costs Commodity Costs	Pennsylvania Office of Consumer Advocate

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Pennsylvania Gas & Water Co. (Scranton)	Pennsylvania	R-00922482	1/93	Rate Design Cost of Service	Pennsylvania Office of Consumer Advocate
Pennsylvania American Water Co.	Pennsylvania	R-880916	11/92	Rate Design	Pennsylvania Office of Consumer Advocate
United Illuminating Company	Connecticut	92-06-05	10/92	Rate Design	Office of CT Consumer Counsel
Pennsylvania Gas & Water Co. (Crystal Lake)	Pennsylvania	R-00922404	8/92	Rate Design Cost of Service	Pennsylvania Office of Consumer Advocate
Yankee Gas Company	Connecticut	92-09-19	2/92	Rate Design	Office of CT Consumer Counsel
Atlanta Gas & Light Company	Georgia	4011-U	10/91	Rate Design	Georgia Consumer Counsel
Consolidated Edison of New York	New York	91-E-0462	9/91	Rate Design	New York City
Texas Eastern Transmission Corporation	Pennsylvania	RP88-67-000 RP88-81-000 RP-88-221-000 RP90-119-000 RP91-4-000 RP91-119-000	7/91	Rate Design	Pennsylvania Office of Consumer Advocate
Philadelphia Suburban Water Co.	Pennsylvania	R-911892	6/91	Rate Design	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	R-911925	4/91	Rate Design	Pennsylvania Office of Consumer Advocate
Middlesex Water Company	New Jersey	WR90080884	2/91	Rate Design	New Jersey Rate Counsel
Hackensac Water Company	New Jersey	WR90080792J	1/91	Rate Design	New Jersey Rate Counsel
Pennsylvania Gas & Water Company	Pennsylvania	R-901726	10/90	Rate Design	Pennsylvania

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
					Office of Consumer Advocate
Artesian Water Company	Delaware	90-10	8/90	Rate Design	Delaware Public Service Commission
Atlanta Gas & Light Company	Georgia	3923-U	7/90	Rate Design	Georgia Consumer Counsel
Pennsylvania American Water Company	Pennsylvania	R-901652	6/90	Rate Design	Pennsylvania Office of Consumer Advocate
Kent County Water Authority	Rhode Island	1952	6/90	Rate Design	RI Public Utilities Commission
Gas Company of New Mexico	New Mexico	2307	4/90	Rate Design	NM Attorney General
Columbia Gas of Pennsylvania	Pennsylvania	R-891468	4/90	Rate Design	Pennsylvania Office of Consumer Advocate
National Fuel Gas Company	Pennsylvania	R891218	6/89	Rate Design	Pennsylvania Office of Consumer Advocate
Commonwealth Gas Pipeline	Virginia	PUE880048	10/88	Rate Design Gas Supply	City of Richmond
Jamaica Water Supply Co.	New York	88-W-080	8/88	Rate Design	Town of Hempstead Service Commission
Equitable Gas Company	Pennsylvania	R-880971	7/88	Rate Design	Pennsylvania Office of Consumer Advocate
Pennsylvania American Water Company	Pennsylvania	R880916	5/88	Rate Design	Pennsylvania Office of Consumer Advocate
National Fuel Gas Co.	Pennsylvania	87-719	12/87	Rate Design	Pennsylvania Office of Consumer

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
					Advocate
Pennsylvania-American Water Co.	Pennsylvania	R-870732	11/87	Rate Design	Pennsylvania Office of Consumer Advocate
Valley Gas Co.	Rhode Island		9/87	Cogeneration Rate	RI Division of Public Utilities and Carriers
Philadelphia Electric Company	Pennsylvania	R-870629	8/87	Rate Design	Pennsylvania Office of Consumer Advocate
Delmarva Power & Light Company	Delaware	86-22	8/87	Rate Design	Delaware Public Commission
UGI-Corporation-Gas	Pennsylvania	R870602	6/87	Gas Supply	Pennsylvania Office of Consumer Advocate
East Ohio Gas Company	Ohio	86-297-GA-AIR	11/86	Rate Design	Office of Consumer Counsel
Delmarva Power and Light	Delaware	86-22,86-32	10/86	Gas Supply Rate Design	Public Service Commission
Commonwealth Gas Services	Virginia	PUE860031	10/86	Gas Supply	VA Office of Attorney General
Metropolitan Edison Co.	Pennsylvania	R-860413	10/86	Rate Design	Office of Consumer Counsel
Pennsylvania Electric Co.	Pennsylvania	R-860413	10/86	Rate Design	Pennsylvania Office of Consumer Advocate
Providence Gas Company	Rhode Island	1844	7/86	Cogeneration Rates	RI Division of Public Utilities and Carriers
National Fuel Gas	Pennsylvania	R-850287	7/86	Rate Design	Pennsylvania Office of Consumer Advocate
In the Matter of Adopting Commission Policy Regarding Natural Gas Industrial	Virginia	PUE860024	6/86	Transportation Policy	Rates & Transportation

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Rates and Transportation Policies					Policy
Connecticut Light and Power Company	Connecticut	85-10-22	3/86	Street Lighting	CT Municipal League & Schools
Boston Edison Company	Massachusetts	DPU85-271	3/86	Street Lighting	City of Boston
West Penn. Power Co.	Pennsylvania	R-850220	2/86	Rate Design	Pennsylvania Office of Consumer Advocate
Public Service Comm. of Maryland	Maryland	7871	7/85	Cogen Unit Perf. Prog.	People's Counsel Performance Program
Valley Gas Company	Rhode Island	1806	7/85	Rate Design	RI Division of Public Utilities and Carriers
Public Service Co. Of New Mexico	New Mexico		7/85	Jurisdiction-al Cost of Service Study	NM Attorney General's Office
Pennsylvania Electric Co.	Pennsylvania	R-842771	5/85	Rate Design	Pennsylvania Office of Consumer Advocate
Metropolitan Edison Co.	Pennsylvania	R-842770	5/85	Rate Design	Pennsylvania Office of Consumer Advocate
Equitable Gas Company	Pennsylvania	R-842771	5/85	Rate Design	Pennsylvania Office of Consumer Advocate
Providence Gas Company	Rhode Island	1741	9/84	Rate Design	RI Division of Public Utilities and Carriers
Public Service Co. Of New Mexico	New Mexico	1891-1892	7/84	Excess Capacity	NM Attorney General's Office
South Jersey Gas Company	New Jersey	834-184	7/84	Rate Design	Department of Public Advocate
Virginia Electric Power Co.	Virginia	830067	3/84	Small Power Production Rates	City of Richmond

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
National Fuel Gas Corporation	Pennsylvania	R-832469	2/84	Rate Design	Pennsylvania Office of Consumer Advocate
Philadelphia Electric Company	Pennsylvania	R-832410	12/83	Rate Design	Pennsylvania Office of Consumer Advocate
Narragansett Electric Co.	Rhode Island	1719	12/83	Rate Design	RI Division of Public Utilities and Carriers
Pennsylvania Power Company	Pennsylvania	R-832409	10/83	Rate Design	Public Corporate Commission
Appalachian Power Company	Virginia	PUE830037	9/83	Power Supply; Off-System	Attorney General's Office
People's Natural Gas	Pennsylvania	R-832315	8/83	Rate Design	Pennsylvania Office of Consumer Advocate
Atlanta Gas & Light Company	Georgia	3402-U	8/83	Rate Design	Georgia Consumers Counsel
New Jersey Natural Gas Company	New Jersey	831-46	7/83	Gas Supply Planning	NJ Department of Public Advocate
East Ohio Gas Company	Ohio	89-901-GA-AIR	5/83	Rate Design	City of Cleveland Consumers Counsel
South Jersey Gas Company	New Jersey	831-107	5/83	Rate Design	NJ Department of Public Advocate
Gas Cost Rate No. 5 Investigation	Pennsylvania	M-78050055	4/83	Gas Supply	PA Public Utility Commission
Narragansett Electric Co.	Rhode Island	1606,1692	3/83	Rate Design	RI Division of Public Utilities and Carriers
National Fuel Gas Co.	Pennsylvania	R-822145	2/83	Rate Design	Pennsylvania Office of Consumer

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
					Advocate
Columbia Gas of West Virginia	West Virginia	82-379-G-30C	12/82	Rate Design	Office of Consumer Advocate
Narragansett Electric Company	Rhode Island	1659	11/82	Rate Design	RI Division of Public Utilities and Carriers
Cleveland Electric Illuminating Co.	Ohio	81-1378-EL-AIR	10/82	Rate Design	Ohio Office of Consumers' Counsel
Potomac Electric and Power Co.	District of Columbia	FC785	9/82	Rate Design	DC Office of People's Counsel
UGI-Gas	Pennsylvania	R-821899	8/82	Rate Design	Pennsylvania Office of Consumer Advocate
Virginia Electric and Power Co.	Virginia	PUE 820018	7/82	Power Supply	Attorney General
Potomac Electric and Power Co.	District of Columbia	FC759	6/82	Rate Design	DC Office of People's Counsel
Pike County Light and Power Company	Pennsylvania	R-821857	4/82	Power Supply	Pennsylvania Office of Consumer Advocate
Potomac Electric and Power Co.	District of Columbia	FC 757	4/82	Cogen.	DC Office of People's Counsel
Philadelphia Electric Company-Gas	Pennsylvania	R-811719	2/82	Rate Design	Pennsylvania Office of Consumer Advocate
Narragansett Electric Co.	Rhode Island	1591	12/81	Rate Design	RI Division of Public Utilities and Carriers
National Fuel Gas Co.	Pennsylvania	R-811600	12/81	Rate Design	Pennsylvania Office of Consumer Advocate
UGI Gas	Pennsylvania	R-811488	8/81	Rate Design	Pennsylvania Office of Consumer Advocate

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Appalachian Power Company	Virginia	PUE810033	8/81	Power Supply	VA Attorney General
Pennsylvania Power Company	Pennsylvania	R-8001510	8/81	Rate Design	Pennsylvania Office of Consumer Advocate
Old Dominion Power Company	Virginia	PUE800116	1/81	Cogen.	Office of Attorney General
Appalachian Power Company	Virginia	PUE800112	1/81	Cogen.	VA Attorney General
Virginia Electric Cooperatives	Virginia	PUE800117	1/81	Cogen.	VA Attorney General
Virginia Electric and Power Co.	Virginia	PUE800102	1/81	Cogen.	VA Attorney General
National Fuel Gas Co.	Pennsylvania	R-79090956	4/80	Rate Design	PA Office of Consumer Advocate
Potomac Electric and Power Co.	District of Columbia	FC 725	1/80	Fuel Adjustment Coal Supply	DC Office of People's Counsel

EXHIBIT SWR-1

A	B	C	D	E	F	G	H	I
Line Number								
Exhibit SWR-1								
Residential Rate Comparison								
1								
2								
3 kWh Usage		Existing Billing	Adjusted Billing	Navopache Proposed Billing	Change in Billing Adjusted To Navopache Proposed	%	WMAT Proposed Billing	WMAT Proposed Change Adjusted Pro
4		\$	\$	\$	\$	%	\$	\$
5	Customer Charge	11.25	11.25	18.75	7.50	66.67%	13.00	1.75
6	First 400 kWh	0.095100	0.095100	0.071070	(0.024030)	-25.27%	0.07707	(0.018030)
7	All kWh Over 400 kWh	0.095100	0.095100	0.071070	(0.024030)	-25.27%	0.10818	0.013081
8	PCA	(0.010047)	(0.019576)	-	0.019576	-100.00%	-	0.019576
9								
10	50	15.50	15.03	22.30	7.28	48.43%	16.85	1.83
11	100	19.76	18.80	25.86	7.05	37.52%	20.71	1.90
12	200	28.26	26.35	32.96	6.61	25.08%	28.41	2.06
13	300	36.77	33.91	40.07	6.16	18.18%	36.12	2.21
14	400	45.27	41.46	47.18	5.72	13.79%	43.83	2.37
15	500	53.78	49.01	54.29	5.27	10.76%	54.65	5.63
16	600	62.28	56.56	61.39	4.83	8.53%	65.46	8.90
17	700	70.79	64.12	68.50	4.38	6.83%	76.28	12.17
18	800	79.29	71.67	75.61	3.94	5.49%	87.10	15.43
19	900	87.80	79.22	82.71	3.49	4.41%	97.92	18.70
20	1000	96.30	86.77	89.82	3.05	3.51%	108.74	21.96
21	1500	138.83	124.54	125.36	0.82	0.66%	162.83	38.29
22	2000	181.36	162.30	160.89	(1.41)	-0.87%	216.92	54.62
23	2500	223.88	200.06	196.43	(3.64)	-1.82%	271.01	70.95
24	3000	266.41	237.82	231.96	(5.86)	-2.46%	325.10	87.28

A	B	C	D	E	F	G	H	I	J	K	L
Line Number											
1	Exhibit SWR-1 Residential Off-Peak Rate Comparison										
2											
3	kWh Usage										
4		Off-Peak kWh	On-Peak kWh	Existing Billing	Adjusted Billing	Navopache Proposed Billing	Change In Billing Adjusted To Navopache Proposed	%	WMAT Proposed Billing	Change In Billing Adjusted To WMAT Proposed	%
5	Customer Charge	59.16%	40.84%	\$ 15.00	\$ 15.00	\$ 25.85	\$ 10.85	72.33%	\$ 17.75	\$ 2.75	18.33%
6	Off-Peak kWh			0.052500	0.052500	0.046070	(0.006430)	-12.25%	0.05248	(0.000024)	-0.05%
7	On-Peak kWh			0.114880	0.114880	0.085170	(0.029710)	-25.86%	0.09701	(0.017867)	-15.55%
8	PCA			(0.010047)	(0.019576)	-	0.019576	-100.00%	-	0.019576	-100.00%
9											
10	50	30	20	18.40	17.92	28.95	11.03	61.56%	21.28	3.36	18.77%
11	100	59	41	21.79	20.84	32.05	11.21	53.81%	24.82	3.98	19.08%
12	200	118	82	28.59	26.68	38.26	11.58	43.39%	31.88	5.20	19.50%
13	300	177	123	35.38	32.52	44.46	11.94	36.72%	38.95	6.43	19.77%
14	400	237	163	42.17	38.36	50.67	12.31	32.08%	46.02	7.66	19.96%
15	500	296	204	48.96	44.20	56.87	12.67	28.66%	53.08	8.88	20.10%
16	600	355	245	55.76	50.04	63.07	13.03	26.05%	60.15	10.11	20.20%
17	700	414	286	62.55	55.88	69.28	13.40	23.97%	67.22	11.34	20.29%
18	800	473	327	69.34	61.72	75.48	13.76	22.30%	74.28	12.56	20.35%
19	900	532	368	76.14	67.56	81.68	14.12	20.91%	81.35	13.79	20.41%
20	1000	592	408	82.93	73.40	87.89	14.49	19.74%	88.41	15.01	20.46%
21	1500	887	613	116.89	102.60	118.91	16.31	15.89%	123.75	21.15	20.61%
22	2000	1,183	817	150.86	131.80	149.93	18.13	13.75%	159.08	27.28	20.70%
23	2500	1,479	1,021	184.82	161.00	180.95	19.95	12.39%	194.41	33.41	20.75%
24	3000	1,775	1,225	218.79	190.20	211.97	21.77	11.44%	229.74	39.54	20.79%
25	4000	2,366	1,634	286.72	248.60	274.00	25.40	10.22%	300.41	51.81	20.84%
26	5000	2,958	2,042	354.64	307.00	336.04	29.04	9.46%	371.07	64.07	20.87%

A	B	C	D	E	F	G	H	I	J	K	L
Line Number											
1											
2											
3											
4											
5											
6	24178441										
7	72205300										
8	96383741										
9	Class										
10											
11	1. Residential										
12											
13	Consumers	264,124	\$ 11.25	\$ 2,971,395		264,124	\$ 13.00	\$ 3,433,612		\$ 462,217	15.56%
14	kWh	92,876,582	\$ 0.0951	\$ 8,832,563 *		61,972,590 *	0.07707	\$ 4,776,227		\$ (4,056,335)	-45.92%
15						30,903,992 *	0.10818	\$ 3,343,224			
16	Additional Minimums			\$ 16,088				\$ 16,088		\$ (2)	-0.01%
17	Subtotal Base Revenue			\$ 11,820,046 *		92,876,582		\$ 11,569,150		\$ (250,896)	-2.12%
18	PCA Revenue			\$ (1,818,184)				\$ 257		\$ 1,818,441	-100.01%
19	Total Revenue			\$ 10,001,862 *				\$ 11,569,407 *		\$ 1,567,545	15.67%
20											
21	2. Residential Off-Peak										
22											
23	Consumers	58,467	\$ 15.00	\$ 877,005		58,467	\$ 17.75	\$ 1,037,789		\$ 160,784	18.33%
24	Off-Peak kWh	31,794,118	\$ 0.05250	\$ 1,669,191		29,964,857	\$ 0.05248	\$ 1,572,432		\$ (96,759)	-5.80%
25	On-Peak kWh	21,952,013	\$ 0.114880	\$ 2,521,847		23,781,274	\$ 0.09701	\$ 2,307,083		\$ (214,764)	-8.52%
26	Additional Minimums			\$ 6,613				\$ 6,613		\$ -	0.00%
27	Total			\$ 5,074,656				\$ 4,923,917		\$ (150,739)	-2.97%
28	Total PCA Revenue	53,746,131		\$ (1,052,153)				\$ 149		\$ 1,052,302	-100.01%
29	Total Revenue			\$ 4,022,503				\$ 4,924,066 *		\$ 901,563	22.41%

PROOF OF REVENUE AT PRESENT AND PROPOSED VMAT RATES

Exhibit SWR-1
NAVOPACHE ELECTRIC COOPERATIVE, INC.
APPLICATION FOR INCREASE
DOCKET NO. E-01787A-01

EXHIBIT SWR-2

A	B	C
Line Number	Exhibit SWR-2	
1	Arizona-New Mexico Customer Charge Comparison	
2	Company	Basic Charge
3	APS-Summer	\$ 7.50
4	APS-Winter	\$ 7.50
5	SRP-Summer	\$ 7.67
6	SRP-Winter	\$ 7.67
7	TRICO	\$ 8.00
8	SSVEC	\$ 7.50
9	Central Valley Electric	\$ 4.90
10	Tucson Electric Power	\$ 4.90
11	Tucson Electric Power Winter	\$ 4.90
12	Arizona Electric Power Coop	\$ 15.25
13	Columbus Electric Coop	\$ 10.00
14	Continental Divide Coop	\$ 5.00
15	Graham County Electric Coop	\$ 8.00
16	Garkane Power Assoc	\$ 12.50
17	Mohave Electric Coop	\$ 9.50
18	Public Service of NM	\$ 3.00

List of Testimonies of Steven W. Ruback

The Columbia Group, Inc.

Gas Supply, Cost of Service and Rate Design Testimonies

<i>Company</i>	<i>State</i>	<i>Docket</i>	<i>Date</i>	<i>Topic</i>	<i>On Behalf Of:</i>
Southern Connecticut Gas Company and Connecticut Natural Gas Corporation	Connecticut	99-04-18, PH III and 99-09-03, PH II	7/13/01	Merger-Enabled Gas-Supply Savings	Office of Consumer Counsel
Southern Connecticut Gas Company	Connecticut	99-04-18, Ph IV	7/2/01	Rate Design	Office of Consumer Counsel
Southern Connecticut Gas Company and Connecticut Natural Gas Corporation	Connecticut	99-04-18, PH III and 99-09-03, PH II	6/25/01	Merger-Enabled Gas-Supply Savings	Office of Consumer Counsel
Oklahoma Natural Gas Corporation	Oklahoma	PUD 200100097	5/18/01	Gas Hedging	Oklahoma Corporation Commission
Entergy New Orleans, Inc.	Louisiana	UD-99-2	3/14/01	Period Costs in Fuel Adjustment Charge	Reverend C.S. Gordon, Jr., et al
Southwest Gas Corporation	Nevada	00-10070	3/14/01	Prudence Review	Bureau of Consumer Protection
Sierra Pacific Power Company	Nevada	00-11002	2/20/01	Prudence Review	Bureau of Consumer Protection
EnergyNorth Natural Gas, Inc.	New Hampshire	DG 00-063	11/27/00	Rate Design	Office of Consumer Advocate
Northern Utilities, Inc.	New Hampshire	DG 00-046	11/16/00	Rate Design	Office of Consumer Advocate
Beaumont Power & Light Company	Texas	SOAH 473-98-2251, PUC 20125	11/6/00	Pro Forma	Beaumont Power & Light, L.C.
Connecticut Natural Gas Corporation	Connecticut	99-09-03	9/25/00	Incentive Rate Plan	Office of Consumer Counsel
EnergyNorth Natural Gas, Inc.	New Hampshire	DG 00-063	9/1/00	Rate Design	Office of Consumer Advocate
United Cities Gas Company	Georgia	12498-U	8/25/00	2000-2001 Gas Supply Plan	Consumer's Utility Counsel Division